

AMENDMENTS TO THE CLAIMS

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (original): An optical plastic fiber comprising a core region and having a center line along a longitudinal axis of the fiber,

in any plane perpendicular to the center line, a refractive index of the core region increasing along a direction going from a periphery portion to the center line, and

in any plane parallel to the center line and containing the center line, a birefringence index varying along a direction going from the center line to a periphery portion perpendicular to the center line.

2. (original): The optical plastic fiber of claim 1, wherein the core region is formed of a material having a positive intrinsic birefringence; and in any plane parallel to a propagating direction and containing the center line, an absolute value of a birefringence index  $\Delta n$ ,  $\Delta n = n_x - n_y > 0$ , where  $n_x$  is a refractive index parallel to the longitudinal axis and  $n_y$  is a refractive index perpendicular to the longitudinal axis, increases along a direction going from the center line to a periphery portion perpendicular to the center line.

3. (original): The optical plastic fiber of claim 1, wherein the core region is formed of a material having a negative intrinsic birefringence; and in any plane parallel to a propagating direction and containing the center line, an absolute value of a birefringence index  $\Delta n$ ,

$\Delta n = n_x - n_y < 0$ , where  $n_x$  is a refractive index parallel to the longitudinal axis and  $n_y$  is a refractive index perpendicular to the longitudinal axis, decreases along a direction going from the center line to a periphery portion perpendicular to the center line.

4. (currently amended): The optical plastic fiber according to claim 1 ~~of any one of claims 1 to 3~~, wherein the core region is formed of a uniform composition.

5. (currently amended): The optical plastic fiber according to claim 1 ~~of any one of claims 1 to 4~~, wherein molecules in the core region are aligned along the longitudinal axis and a degree of the alignment varies along a direction going from the center line to a periphery portion perpendicular to the center line.

6. (original): A process for producing an optical plastic fiber comprising drawing a preform comprising at least one region formed of a material having an intrinsic birefringence into fiber while passing the preform through at least two zones where a temperature is set to be different each other, thereby creating a temperature-difference of 5 °C or larger between a center portion and a periphery portion of the preform before the preform is drawn into fiber.

7. (currently amended): The optical plastic fiber according to claim 1, wherein light loss is not greater than 250 dB/km.

8. (new): The optical plastic fiber according to claim 2, wherein light loss is not greater than 250 dB/km.

9. (new): The optical plastic fiber according to claim 3, wherein light loss is not greater than 250 dB/km.

10. (new): The optical plastic fiber according to claim 4, wherein light loss is not greater than 250 dB/km.

11. (new): The optical plastic fiber according to claim 5, wherein light loss is not greater than 250 dB/km.

12. (new): The optical plastic fiber according to claim 2, wherein the core region is formed of a uniform composition.

13. (new): The optical plastic fiber according to claim 3, wherein the core region is formed of a uniform composition.

14. (new): The optical plastic fiber according to claim 2, wherein molecules in the core region are aligned along the longitudinal axis and a degree of the alignment varies along a direction going from the center line to a periphery portion perpendicular to the center line.

15. (new): The optical plastic fiber according to claim 3, wherein molecules in the core region are aligned along the longitudinal axis and a degree of the alignment varies along a direction going from the center line to a periphery portion perpendicular to the center line.

16. (new): The optical plastic fiber according to claim 4, wherein molecules in the core region are aligned along the longitudinal axis and a degree of the alignment varies along a direction going from the center line to a periphery portion perpendicular to the center line.